

Second Preliminary Amendment

Applicant(s): Lawrence P. WACKETT et al.

Serial No.: 09/866,307

Filed: 25 May 2001

For: DNA MOLECULES AND PROTEIN DISPLAYING IMPROVED TRIAZINE COMPOUND DEGRADING ABILITY

Page 2

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Please replace the paragraph at page 6, lines 4-15, with the following rewritten paragraph. Per 37 C.F.R. §1.121, this paragraph is also shown in Appendix A with notations to indicate the changes made.

B1

In another aspect of this invention, the invention relates to a DNA fragment having a portion of its nucleic acid sequence having at least 95% homology to a nucleic acid sequence consisting of position 236 and ending at position 1655 of SEQ ID NO:1, wherein the DNA fragment is capable of hybridizing under stringent conditions to SEQ ID NO:1 and wherein there is at least one amino acid change in the protein encoded by the DNA fragment as compared with SEQ ID NO:2 and wherein the protein encoded by the DNA fragment is capable of dechlorinating at least one *s*-triazine-containing compound and has a catalytic activity different from the enzymatic activity of the protein of SEQ ID NO:2. In one embodiment the *s*-triazine-containing compound is ATRAZINE, TERBUTHYLAZINE, or MELAMINE.

Please replace the paragraph at page 6, lines 16-31, with the following rewritten paragraph. Per 37 C.F.R. §1.121, this paragraph is also shown in Appendix A with notations to indicate the changes made.

B2

The invention also relates to a method for treating a sample comprising an *s*-triazine containing compound comprising the step of adding a protein to a sample comprising an *s*-triazine-containing compound wherein the protein is encoded by a gene having at least a portion of the nucleic acid sequence of the gene having at least 95% homology to the sequence beginning at position 236 and ending at position 1655 of SEQ ID NO:1, wherein the gene is capable of hybridizing under stringent conditions to SEQ ID NO:1, wherein there is at least one amino acid change in the protein encoded by the DNA fragment as compared with SEQ ID NO:2 and wherein the protein has an

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Page 3 of 4

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altered catalytic activity as compared to the protein having the amino acid
sequence of SEQ ID NO:2. In one embodiment, the composition comprises
bacteria expressing the protein. In one embodiment the *s*-triazine -containing
compound is atrazine, in another the *s*-triazine-containing compound is
TERBUTHYLAZINE and in another the *s*-triazine containing compound is
(2,4,6-triamino-*s*-triazine). In one embodiment, the protein encoded by the gene
is selected from the group consisting of SEQ ID NOS: 5, 6 and 22-26.

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